



# FOR THE YOUNG PEOPLE



## Jamie Learns How To Make Ice

It was a hot morning in July. Jamie was barefooted, dressed in overalls and low-necked waist, so everybody else in the family was hot.

"Where do you get all of the water?" Jamie asked, and the gentleman replied: "Out of the hydrant. It is just the kind that you drink, only much cleaner, for we get out all the impurities before we freeze it."

"By boiling it," the gentleman said. "There's that boy eating that dirty ice again!" Nora cried, as she saw him. "Dirty, nothing!" retorted Mike, bouncing the ice into the ice chest and getting a dark look from Nora. "That ice is made of clean water, I'll have you to know!"

"Ammonia!" Mike sniffed. "Much you know about making ice! No ammonia ever gets near that ice, Nora, dear," he said, as he tried to chuck her under the chin and get a slap for his pains.

Jamie stood looking on, his eyes big and round, as the two talked about making ice. Mike slammed the screen door and started down the walk, but Jamie caught his arm.

"Oh Mike!" he cried. "Do you really make ice?"

"Well, I don't exactly, but we do up at the plant, Jamie," Mike answered. "In this hot weather?" Jamie asked. "Sure! Hot weather is the time that people need ice," Mike said.

"Why, I thought it had to be cold weather to make ice—you know, winter."

Mike laughed. "Say, kid, you get your mother to bring you up to the plant some day and we'll show you how to make ice in hot weather," and he yelled to his horses and was gone.

Jamie ran in to find his mother. "Oh, mother," he cried, "Mike says they make ice in hot weather—do they, really?"

"Why, of course, Jamie," his mother answered.

It seemed a strange thing to Jamie, but he had learned that there were many things in the world that seemed strange until they were explained by grown-ups, then they were not strange at all. So he told his mother about Mike inviting him to come to the plant to see how ice was made, and she promised to take him sometime.

So one morning they got on the car and went to the ice plant. Jamie expected it to be very cold and insisted upon taking his sweater. His mother let him take it, but she smiled. When they got there it did not look one bit like the North Pole, as Jamie expected it to. It was just a plain-looking building. They went into the office, where Jamie's mother explained their errand to a hot-looking man in his shirt sleeves.

"Certainly," he said, as he slipped

his coat on. "I will be pleased to show the boy how we make ice in hot weather." So they went from the office into the plant.

The floor was made of many wooden planks, each with an iron ring in the top. The gentleman picked up one of these rings and they looked into a square box made of heavy tin which was full of water.

"Where do you get all of the water?" Jamie asked, and the gentleman replied: "Out of the hydrant. It is just the kind that you drink, only much cleaner, for we get out all the impurities before we freeze it."

"By boiling it," the gentleman said.

around these tanks?" he asked. "That is brine—water with a salt in it and it is kept very cold by ammonia liquid working to get back to its gas form. It takes the heat from the water in the tanks, then the ammonia liquid uses up that heat as fast as it can. So the water loses so much heat that it becomes very cold and freezes. This brine is about 14 degrees, which is about as cold as a sharp winter day. So of course the water surrounded by this cold brine freezes and makes ice."

"Does the brine ever freeze?" Jamie asked.

"No," the gentleman replied. "That is not cold enough to freeze brine."

"How long does it take to freeze



"How long does it take to freeze these tanks of water into ice?" asked Jamie.

Jamie tried to ask a dozen questions at once, so the gentleman got some chairs and they all sat down while he tried to explain just how ice is made, so that Jamie could understand.

"Now, Jamie, you know how hot you get when you run and play?" Jamie nodded. "Well, in order to run and jump, you have to use a certain amount of energy—that is, strength. And that strength or energy uses up so much heat out of your body. That's the reason you get hot. Do you think he understands that?" he asked Jamie's mother, who said, "Yes, I think so." So he went on: "That is, in order to do any kind of work, a certain amount of heat is used up."

"Yes sir," said Jamie, wondering what that had to do with ice.

"Well," the gentleman went on. "Everything has a certain amount of heat in it—wood and earth and water—in fact, everything. You can't always feel it, but it is there just the same. It is called latent heat. It is a sort of sleeping heat."

"Well, all this water that we run into these tanks has a certain amount of heat in it—latent heat. If the heat were taken out then it would be cold. For cold is really the absence of heat. Do you understand that?"

Jamie nodded. "Oh, yes! When anything is cold it has no heat in it." "Exactly. Now, we want to make this water so cold that there will be no heat left in it. So this is what we do. We make something work and use up the heat that is in the water. So the water gets very cold when the heat is taken out of it and then it freezes."

"What do you make work?" Jamie wanted to know.

"Ammonia gas. We squeeze that ammonia gas by machinery until it becomes a liquid—something like water. Of course when we stop squeezing it, it tries to go back to a gas again—to expand just like a rubber ball does when you stop pressing it."

"Yes sir!"

The gentleman went over to one of the tanks filled with clear water. "Do you see this muddy-looking water all

these tanks of water into ice?" Jamie wanted to know.

"About forty hours—almost two days," the gentleman told him.

"Seems to me the ammonia has all the work to do," Jamie said, thought-

ALWAYS OBEY MOTHER.

I THINK it very wise of you To do what mother says to do: If mother tells you not to swim

With Tom and Bob and Joe and Jim: Then speak up bravely like a knight And say, "I won't! It isn't right!"

And if they call you "Fraidie-cat," And "Scaredie-crow" and "Silly-rat!" And say you're just a baby yet, You smile at them and don't forget,

That boys who mind their mother's may

Be presidents some future day!

And boys who fib and run away, And boys who never can obey, Are quite unworthy even when

They grow to be the size of men— So just remember what I say: It's always noble to obey!

fully. "Nora says the ice is just full of ammonia," he went on.

"Nora, whoever she is, is mistaken, for the ammonia never gets near the ice," the gentleman said, laughing. "What a boy!" laying his hand on Jamie's head. "He's got something in here, all right."

Jamie's mother thanked the gentleman kindly for his trouble, and then they went home.

All the way home on the car, Jamie talked about making ice in hot weather, asking question after question until he was satisfied. When they got home, he ran out into the kitchen.

"Nora," he called. "They make ice out of water that's pure by making ammonia work very hard and take the heat out of the water and when there is no heat left the water freezes and then it is ice!"

"You see," she hastened to explain, "we've marked these squares on the ground, and then I take this stone and stand here and toss it into one of—"

"Aw shucks!" interrupted "Bluster Bobby." And—rude boy that he was—he kicked the stone which was lying on the ground so hard that it disappeared beyond the fence. "You don't have to have any stone to play this game. Why don't you tell me that you try to see how far you can hop on one foot, without telling me all about that old stone? Now you watch me—I'll show you how to play this game? Say, do you know how far I can hop on one foot?" And he paused impressively for reply.

But Arthur merely continued to stare at him and Ellen looked away.

"Why—why," said the bully, "I can begin here and hop into every square without putting my other foot on the ground—no even once!"

"Wou—wouldn't you get tired?" Ellen ventured to ask in a weak voice.

"Get tired? Hunh! I should say not! You don't know how good I can hop, you don't. Why, I could hop from here all the way to China and back again, if I wanted to!"

Arthur looked at him quickly. "How could you cross the ocean?" he demanded.

For a moment "Bluster Bobby" was puzzled; that question seemed to "take the wind out of his sails," as the saying goes. But he recovered quickly and scowled at Arthur. "Shucks! That's no easy! Why, I'd just swim across the ocean, I would! I never tried hopping on water, but I guess I could do it if I had to!"

Arthur laughed. He just couldn't help it!

"What are you laughing at?" demanded the bully in a fierce tone.

"You see," she hastened to explain, "we've marked these squares on the ground, and then I take this stone and stand here and toss it into one of—"

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## Pride Before the Fall

ELLEN and Arthur were playing "Hop-Scotch," as happily and peacefully as you please—down in their own backyard, too!

When "Bluster Bobby" had to come along, vault the fence, give them a "Oh, would you really like to know?" Ellen spoke up brightly, hoping that by being pleasant to him he would, in turn, act the same way and, maybe, enjoy the game with them.

"Bluster Bobby." That wasn't his

"Playing Hop-Scotch," answered Arthur shortly, in a level tone.

"Hunh! Nice game for a boy to be playing, ain't it? How do you play the thing, anyway?"

"Oh, would you really like to know?" Ellen spoke up brightly, hoping that by being pleasant to him he would, in turn, act the same way and, maybe, enjoy the game with them.

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"Oh, nothing," Arthur answered lightly. "Only I was just wondering how long it would take you to swim the ocean and how you'd get something to eat and drink. I guess the ocean is more than a thousand miles wide and—"

"Is that so? Is that so?" exclaimed their tormentor. "Well, I wouldn't mind that. I could swim a hundred miles in one day—maybe a thousand if I was in a hurry. But I'd take it easy and—and—I'd carry some sandwiches on my back and when I got thirsty I'd just drink right out of the ocean all I wanted to!"

"It's salt water!" cried Arthur. "You couldn't drink that!"

"Oh yes I could! I like salt water, I do! In fact, I never feel like I've had a good drink if it hasn't got any salt in it. Say, want to see me hop all around those squares? I bet you I can do it a hundred—no, a million times! Here goes!"

And "Bluster Bobby" started off, hopping lightly from one square to the next, a look of scorn on his face. He made the circuit in a moment or two; then he started around again—but not so fast this time. Again he returned to his starting place and began the third lap.

But he wasn't hopping in a lively manner now. Indeed not! He was panting for breath. His face was flushed and the foot he'd been holding off the ground began to feel as though it weighed a ton.

Suddenly he stopped, leaned down, put the foot on the ground and began to feel with it.

"You're touching the ground!" cried Arthur. "That isn't fair!"

"Hunh!" gasped the bully, though he hadn't much breath left with which to gasp. "It is that so? Well, I'm not! I—I'm just trying my shoe! Guess I—I got a right to—to tie my shoe, ain't I?"

He straightened up—much relieved by even this brief rest—and began to hop again.

All of a sudden he uttered a shrill cry, and went down in a heap. He lay on the ground, squirming and twisting and grabbing at his foot (the one he had been hopping on) and shrieking in agony.

Ellen and Arthur rushed up to him. "What is the matter?" they both exclaimed.

"Oh—oh—ah!" yelled the bully. "I—I'm going to die—I'm going to die! I—I broke my foot off! I know I broke it off!"

Arthur looked down, but the foot was still firmly attached to the leg. "No," he said—and he just couldn't help grinning—"no, it is still on. I guess you must have sprained your ankle."

"Oh! ouch! Oh—help, help! Oh my! Oh my! Get a Doctor!" yelled "Bluster Bobby," his bluster all gone, his courage oozing out at every yell and his whole demeanor that of the coward he really was at heart.

Just then the children's Mamma came rushing out to see what was the matter. And she picked up "Bluster Bobby" and carried him into the house where, it was found, he had suffered nothing more than a sprained ankle—and not badly sprained at that!

Do you remember the old adage about pride going before a fall? Well, it seems to fit in right here, don't you think? For "Bluster Bobby" certainly was boastfully proud, wasn't he? And he surely did fall, both actually and so far as his pride was concerned. Somehow, too, it's always that way. Brag about something, and invariably it isn't long before everyone knows that you were merely bragging!



Hopping Lightly from One Square to the Next.

real name, of course, for it was Robert; but everyone called him "Bluster Bobby" behind his back for, alas, Robert was a good bit of a bully, a blusterer and a "bad boy."

He loved to "pick" on smaller boys and make them do his bidding; and he never overlooked an opportunity to pull a girl's hair or say something mean that would make her cry.

So—to return to our story—on this particular afternoon when he had interrupted the pleasant time Ellen and her little brother Arthur were having, neither of them answered his remark. They were taken so by surprise and, to tell the truth, they were afraid of him, his reputation having traveled far and wide over the neighborhood.

He fixed his gaze upon poor Arthur. "Hey, you!" he exclaimed. "Lost your tongue, huh? I asked you what you were doing!"

## BILLIE BEETLE'S RIDE

Billie Beetle is so tony  
He's proud as he can be.  
With his caterpillar pony  
He takes a ride, you see.



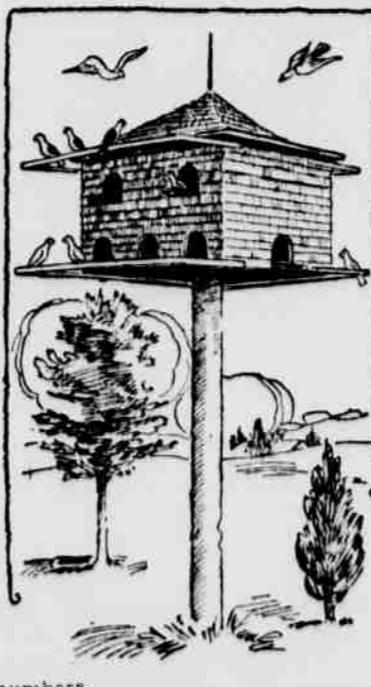
His pony trots so well, you know,  
His heart is filled with glee.  
But now his joy's turned to woe,  
His steed goes up a tree!

## BIRD PETS - PIGEONS

ALMOST every one likes pets and nothing adds to the picturesqueness of a place with grounds more than a resident family of semi-tame birds. It is difficult to find any of our feathered friends which will meet the foregoing requirements better than the White Fan Tail Pigeons. They are easily tamed, make charming pets, and their snowy forms fluttering about through the trees or walking deliberately and proudly upon the grass are extremely picturesque.

There is a great variety of pigeons and even the commoner ones are most interesting. They all belong to the family Columbidae. Those native of the temperate regions are very soberly colored being brown, grey, black and white, or mixed colors. Those native to the tropical regions are more brilliant and show the brighter shades of blue and rich purple. Other pigeons on the Orient are very vivid in hue. They show green, yellow, orange, red, blue and violet colors in their feathers. Pigeons live upon fruit, grain and seeds. Their nest is very delicious and the young pigeon or "squab" is often raised for market. There are three hundred species of pigeons known.

The early historians of America tell of the native pigeon which grew and abounded in this country, especially in the Mississippi Valley in the early days. Sometimes there would be as many as a hundred nests in a single tree. When a column of them many miles in length and a mile in width was encountered it would drown the report of guns. When the birds set



numbers. The Carrier Pigeon is especially interesting. Those who raise them start to train them to carry messages when they are very young. They take them in a covered basket away from the home place and set them free. They

seem to have a remarkable instinct for finding their own family and they speedily return. Every lesson they are taken a little further away until they will return swiftly five or six hundred miles, traveling on an average of about twenty miles an hour.

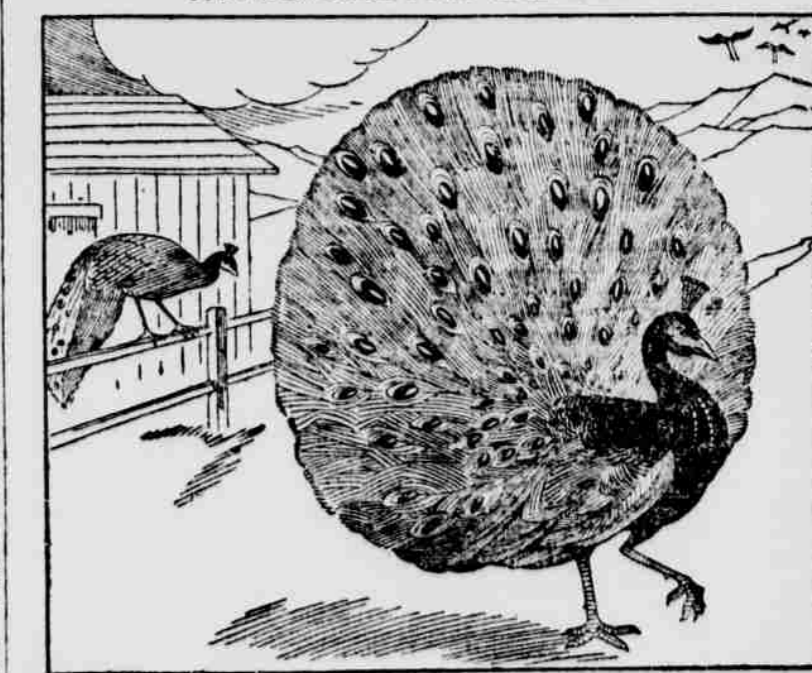
In early times these strange postal clerks were largely employed to carry messages from one part of the country to the other. Sometimes falcons used to chase and wound the faithful pigeons. They have been known to carry messages of 30,000 words in length. These were so arranged as to be enlarged by photography by the ones who received them. During the Siege of Paris communication was kept up with the outside world by the means of pigeons.

These gentle birds make delightful pets and the rarer varieties may be procured from pigeon fanciers. As they breed several times a season, the original price may be made up by the sale of the young birds. It is not difficult to make a pigeon house. It should be roomy and comfortable as they are rather large birds. It is well to arrange a light, open-air piazza of lighting perches about the roof and so that the inmates may sun themselves at their pleasure, or alight upon these perches as they return from an aerial excursion.

The White Fan Tails are very attractive, both when at rest and when flying. Almost any boy could make a pigeon house as good as the one shown in the picture if he had the material and was handy with tools.

## AESOP'S RETOLD

Copyright, 1916, Garrett Newkirk, Pasadena, Cal.  
THE PEACOCK AND THE CRANE.



LIKE a ship's great sail,

The peacock spread his tail:

He remembered every word

That he had overheard.

Calling him a wonderful bird.

Boastful then and vain,

He said to the sandhill crane:

"Look at me, dull thing.

You've no color in your wing.

While I am robed like a king."

Said the crane, "Tis true

I have no brilliant hue,

But I can soar away

Over the mountains gray.

To greet the dawn of day:

And my clarion call

Is heard high over all:

As through the summer night,

I take my circling flight.

By the moon or stars' soft light:

In the cool, sweet air,

For me no danger there:

While you for your defense,

And your beauty's recompense,

Roost on the barnyard fence."

The moral is in the ancient words,

"Fine feathers do not make fine birds."

## OUR PUZZLE CORNER

### WORD SQUARE.

No. 1. To peel; No. 2. Dry; No. 3. Outside of a large fruit which grows on the ground; No. 4. Circular motion of air or water.

### DIVISIONS.

1. Divide the fruit of a tree of the East Indies and get a human being and a word meaning to depart.

2. Divide corrupt or barren in two parts and get to join or put together and a word meaning gone before.

3. Divide a charge for a firearm in two parts and get a wagon with two wheels and the top of a roof.

4. Divide a severe trial in two parts and get a preposition and a business transaction.

### ANSWERS.

WORD SQUARE: PARE, ARID, RIND, EDDY.

DIVISIONS: 1. Mango—Man-go. 2. Added—Add-ed. 3. Carriage—Cart-ridge. 4. Ordeal—Or-deal.

### AT THE SEASHORE.



Bessie and Tommy are having a fine time at the seashore. They are expecting one of their little playmates who has not yet appeared. Can you find her by cutting out and correctly putting together the black pieces?

